National Significant Wildland Fire Potential Outlook

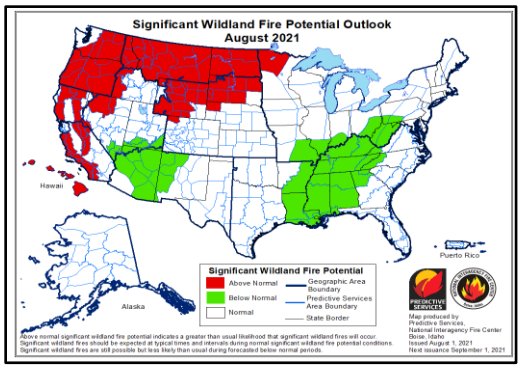
Predictive Services
National Interagency Fire Center

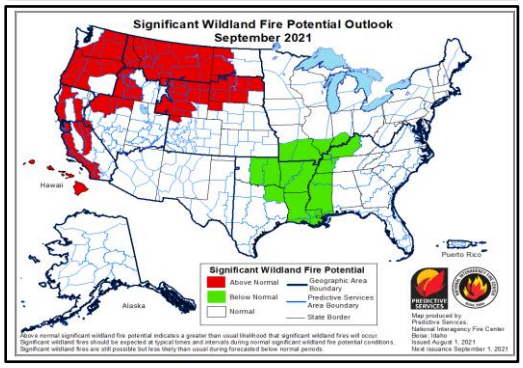
Issued: August 1, 2021
Next Issuance: September 1, 2021

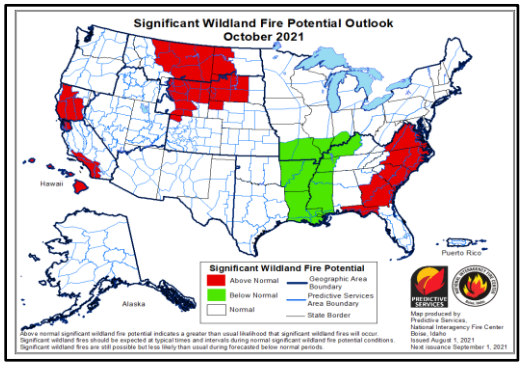
Outlook Period – August 2021 through November 2021

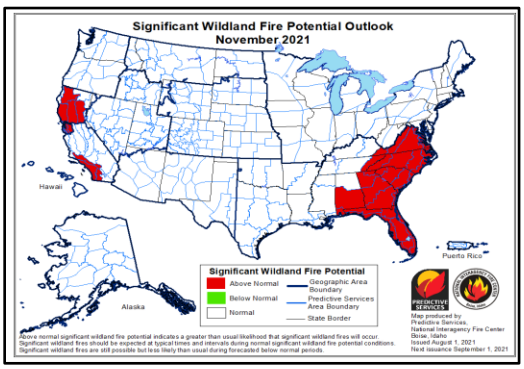
Executive Summary

The significant wildland fire potential forecasts included in this outlook represent the cumulative forecasts of the ten Geographic Area Predictive Services units and the National Predictive Services unit.









Fire activity continued to increase significantly during July. Significant fire activity moderated in the Southwest, Utah, and Colorado, but increased markedly across the Northwest, northern California, Idaho, and Montana. The national preparedness level increased to five on July 14, the third earliest occurrence since 1990.

Drought expanded across the West with more than 95% of the West in drought. Drought intensified across the northern Intermountain West, but some relief in drought intensity occurred across the Southwest and southern Great Basin. More than half of the West continues to be in the highest two categories of drought. Well above normal temperatures continued across much of the West into the northern Plains, except near the coast and Southwest where temperatures were closer to average. A strong start to the monsoon season was observed in the Southwest, southeast California, southern Great Basin, and southern Colorado with above normal precipitation. However, rainfall was well below average for the remainder of the West into the northern Plains and Minnesota.

Climate outlooks indicate warmer than normal conditions are likely for much of the CONUS, especially the West, into fall. The northern Intermountain West is likely to have drier than normal conditions in August, expanding to include most of the West during fall. Near normal precipitation is likely with the monsoon in August, which should continue to alleviate drought. However, drought is likely to expand and intensify across much of the West into fall.

Much of Southern Area and areas south of the Ohio River are likely to have below normal significant fire potential through September, but much of the Southeast U.S. is forecast to have above normal fire potential in October and November. Normal significant fire potential is forecast for Alaska along with most of Eastern Area. Above normal significant fire potential is likely to remain in portions of northern Minnesota into August.

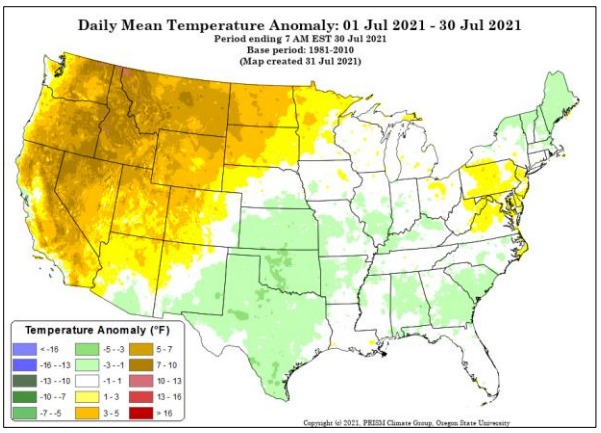
Above normal significant fire potential is forecast to continue through September for much of the Northwest, Northern Rockies, and northern portions of the Great Basin and Rocky Mountain Geographic Areas. Most of these areas will return to normal fire potential in October and November. Most mountains and foothills in California are forecast to have above normal potential through September with areas prone to offshore winds likely to retain above normal potential into October and November in southern California. Leeside locations in Hawaii are likely to have above normal significant fire potential into October.

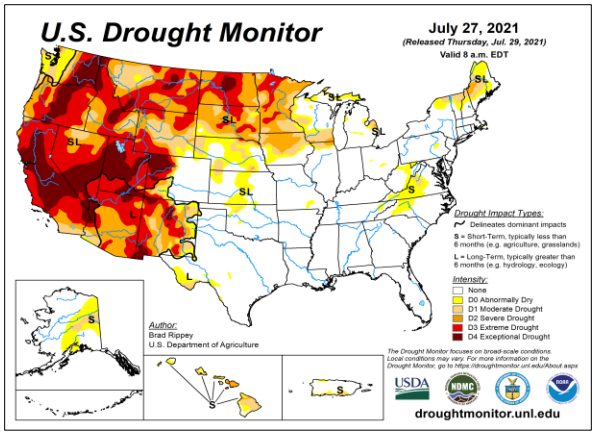
Past Weather and Drought

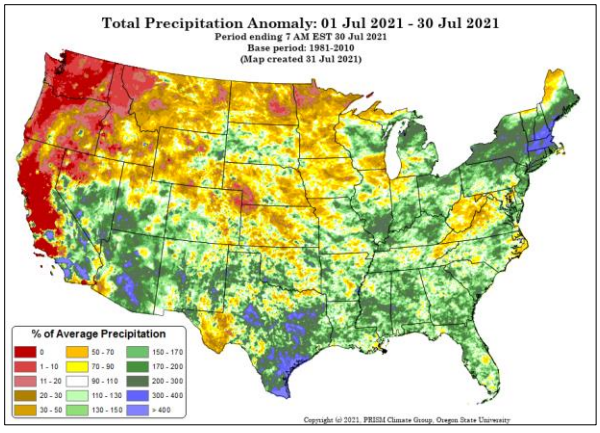
More than 95% of the West is in drought with over half the region in extreme to exceptional drought. This represents the most expansive and intense drought for the West this century according to the US Drought Monitor. Drought continues to intensify in northern California, northern Great Basin, Minnesota, and parts of the Pacific Northwest and Northern Rockies. However, some improvement in the drought was observed over the Southwest and southern Utah due to a strong start to the monsoon. Drought was alleviated in the Great Lakes due to continued precipitation events in July.

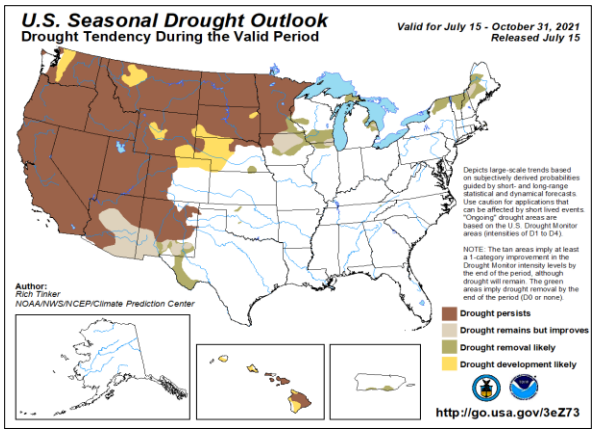
Temperatures were well above normal across the West and northern Plains in July with above normal temperatures also observed in Minnesota. Mostly near normal temperatures combined with near to above normal precipitation were observed across the southern Plains, Southwest, Southeast, Great Lakes, and Northeast. The remainder of the West received below average precipitation with the greatest deficit from western Montana into Idaho and the Northwest. Much of the Interior of Alaska experienced normal to above normal temperatures with below normal precipitation, but most of western Alaska observed below normal temperatures with above normal precipitation the latter half of the July.

Lightning activity continued across much of the West and Alaska during July. An abundant dry thunderstorm outbreak occurred on July 7-8 across the interior Northwest and Northern Rockies ignited numerous large fires throughout Oregon, Washington, Idaho, and Montana. This lightning episode was also preceded and followed by very hot and dry weather. Several other episodes of thunderstorms occurred throughout the month with a mix of wet and dry thunderstorms. A strong start to the monsoon brought beneficial rainfall to the southern Great Basin, southeast California, southern Colorado, and Southwest where many locations received two to five times their normal precipitation for July. A surge of monsoon moisture at the end of July produced a period of wet thunderstorms for the Great Basin, Colorado, and Wyoming.









Left: Departure from Normal Temperature (top) and Percent of Normal Precipitation (bottom) *(from PRISM Climate Group, Oregon State University).* **Right: U.S. Drought Monitor (top) and Drought Outlook (bottom)** *(from National Drought Mitigation Center and the Climate Prediction Center)*

Weather and Climate Outlooks

ENSO-neutral conditions are present with near-to-below average sea surface temperatures (SSTs) over much of the equatorial Pacific Ocean. Other teleconnection patterns, like the Madden-Julian Oscillation, are likely to play bigger roles in shaping the weather and climate patterns during ENSO-neutral conditions. The Climate Predicter Center (CPC) forecasts a 51% chance that ENSO neutral conditions continue through October, and a 66% chance of La Niña conditions developing late fall into winter (November through January).

Geographic Area Forecasts

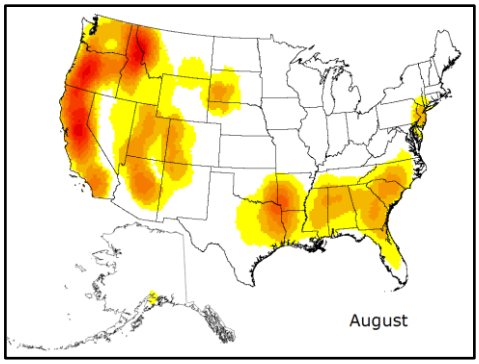
Alaska: Normal fire potential is expected in Alaska for the next four months, as fire season slows drastically in August and fire season typically ends in late September. Most areas have received summer wetting rain, decreasing fire potential significantly. As is climatologically expected, the Upper Yukon and far eastern Interior are the areas with the most fire potential going into the end of summer.

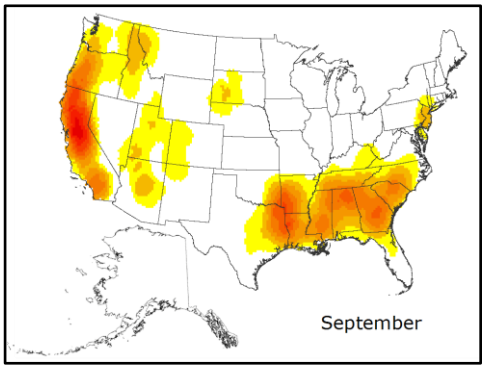
The U.S. Drought Monitor identifies a swath of Alaska from the northeast corner down to south-central Alaska as abnormally dry, and a section of the eastern Interior with moderate drought. However, most of these areas received substantial rainfall through the end of July, diminishing such concerns. The main areas with dry fuels are the Yukon Flats and the Upper Tanana Valley, which is typical of this time of year; these are the areas most sheltered from stratiform precipitation.

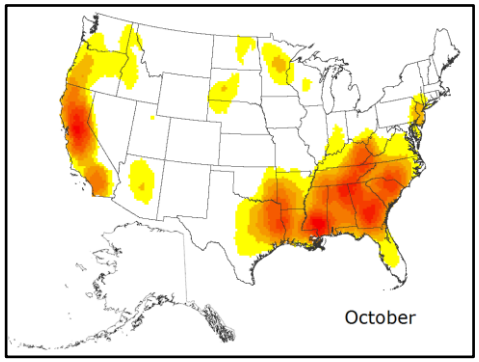
There is a fair amount of fire on the ground in the northeast Interior, but most of those fires are not expected to have significant impacts. New starts are likely in the northeast Interior with any large-scale lightning events, but current fuel conditions indicate that fires will be manageable. By mid-August, thunderstorms become minimal, and most ignitions are human starts.

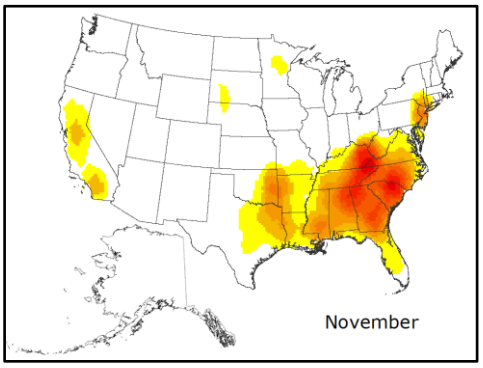
Most areas will begin August with moderately dry surface fuels and damp upper duff. Deeper fuels are dry across the state, though this is typical of late summer conditions. The upper duff dampness will slow fire potential for most of Alaska. The Upper Yukon Zone is the exception, having received only light rain. Their fuels continue to be quite dry with the ability to support active burning in all fuel layers.

For the next few weeks, the Climate Prediction Center (CPC) calls for the likelihood of warmer than normal temperatures across Alaska and wetter conditions in the northeast. However, with the current fuel conditions and model forecasts, expect more periods of wetting rains for most of the state, leaving only the eastern Interior with intermittent potential for active burning. Normal significant fire potential is expected across Alaska through the remainder of the summer and into autumn. Some new fires are expected in the northeast Interior due to lightning ignitions, with human ignitions along the road corridors in the central and eastern part of the state are also likely. The northeast Interior will remain the focus with the most significant fire potential as it is the driest region.









Normal fire season progression across the contiguous U.S. and Alaska shown by monthly fire density (number of fires per unit area). Fire size and fire severity cannot be inferred from this analysis. (Based on 1999-2010 FPA Data)

Northwest: Nearly the whole Northwest Geographic Area is expected to experience above average significant fire potential. Only PSA NW01 (western Washington) is predicted to have normal potential in August.

July was warm and dry in the Pacific Northwest, continuing a months-long stretch of above average temperatures and below average precipitation, with only brief, periodic interruptions to the pattern. The entire geographic area showed a significant warm anomaly, except during the final week July when west side temperatures decreased to near average. Except for a couple areas in southeastern Oregon, precipitation was essentially absent across the area until monsoonal moisture brought much needed precipitation to parts of central and eastern Oregon in the final week of July. Drought conditions continued to worsen across most of the region with more areas added to the exceptional drought category. Only parts of western Washington saw some drought reduction during July. The western U.S. is currently experiencing the most widespread and severe drought since the US Drought Monitor began.

The geographic area experienced a rapid increase in large fire activity, and the NWCC went to PL5, the highest preparedness level, on July 14th as many incident management teams were mobilized. Several significant fires were observed in July in central Oregon (PSAs NW06 and NW07) and northeastern Oregon (PSA NW11). Large fires emerged in southwest Oregon and in north-central and northeast Washington that required team management. The reported fires to date are approximately 900, with daily totals at moderate levels of activity. Most days are seeing 15 to 20 fires a day with spikes over 40 during lightning events.

Over 711,000 acres have burned in July, with most of the acres coming from fires in central and south-central Oregon. The Bootleg Fire exhibited extreme fire behavior for multiple days and is the largest fire burning in the nation at this time. Fire tornadoes, independent crown fires, long-range spotting, and extended burn periods were reported on this incident. A fuels and fire behavior advisory was issued for the area. Units are reporting recent fire scars are impeding fire spread on existing large fires. However, due to the drought, brush is burning more active relative to the time of year, and recent burns are experiencing relatively slower spread in heavier fuels. Needle cast is becoming a problem in some areas accelerating fire spread. Large heavy fuels are beginning to completely consume at lower elevations. Fire behavior continues to accelerate and steadily move up in elevation as well as increasing in intensity on north slopes. Reports from the field reference the current burning conditions being observed as “mid-August burning conditions in a bad fire year”.

The hot and dry trend in late June continued to impact live and dead fuels. Heavy dead fuel moisture was well below average for most PSAs in July with some record low values observed. Fire danger indices reached and exceeded maxima in several areas. Drought deepened through the central part of the geographic area extending southwest to northeast with extreme and exceptional values. Overnight humidity recovery was poor until later in the month on the east side of the Cascades. The west side PSAs did receive some return of marine influence to stabilize some of the vegetation stress. Daytime relative humidity was well below average and frequently in single digit territory east of the Cascades.

With the weather impacts, the live fuels cured out quicker. Brush and conifer moisture levels sampled have been below average. Needle and leaf cast of varying levels are being reported where the needle cast is creating problems that is increasing surface spread in some cases. The needle cast was also noted as a ladder fuel for initiating torching of trees and crown runs. The needle reddening from heat appears to be more prevalent west of the Cascades where moisture and heat deficits are not typical. The trees around clearings and south aspect slopes show the scorch damage and reddening effects. So far noticeable increases in fire behavior have not been reported. A wilting appearance of shrubs and brush has been reported across the geographic area. The situation will need to be closely monitored on the west side of the Cascades for atypical and hazardous conditions. Existing fuels and fire behavior advisories are going to be extended into August.

CPC outlooks indicate August will be warmer than average but will start with the east side of the region showing potential for above average precipitation. For the month, however, August shows a dry bias on the east side with equal chances for above, below, or normal precipitation on the west side. Further

outlooks suggest weather conditions are most likely to be warmer than usual for the period from September through November over the Northwest Geographic Area but offer no clear indications regarding precipitation. With very dry fuels resulting from the extreme and persistent drought, the potential for significant fires is expected to be above average through September for the entire Northwest Geographic Area except northwest Washington (NW01), which should return to normal in August, and southeast Oregon (NW12), which is expected to return to normal in September. After September, significant fire potential is expected to drop to average and remain there through fall.

Northern California and Hawai'i: Significant fire potential is forecast to be normal for the Far East Side PSA, Coast Ranges, and lower elevations in North Ops. Above normal fire potential is expected for most other mid/upper elevation areas. Above normal fire potential is forecast for all areas west of the Cascade-Sierra Crest except the North Coast. Normal fire potential is expected east of the crest and for the North Coast PSA. For the Hawai'ian Islands, above normal significant fire potential is forecast for the lee sides, divides, and saddles through October, returning to normal fire potential in November. Normal significant fire potential is forecast elsewhere in Hawai'i through November, except locally above normal conditions will occur during dry stretches due to above normal fuel loading

Dry conditions continued in July, with only a few periods of thunderstorm activity that produced brief moderate rainfall on a local scale. Temperatures were above average almost everywhere in July, except in a few coastal areas that were influenced by nearby cooler than average sea surface temperatures. The low elevation grass crop is cured and fuel loading among low elevation brush and grasses is near average to lighter than average. Fuel moisture readings, in both live and dead fuels, have dropped to critical levels at all elevations, as indicated by extreme fire behavior in July. The overall outlook for the North Ops region is for drier and warmer than average conditions over the four-month period from August through November.

Any new ignitions will exhibit extreme fire behavior and spread rates in dry breezy weather. However, large fire potential is diminished to closer to normal in August near the immediate coast due to the frequent presence of cool humid marine air. Large fire potential is also forecast to be close to normal at lower elevations where fuel loading is lighter than in recent years with light winds expected. The Far East Side PSA, where fuel loading is lighter and less continuous than usual due to the ongoing drought, is also forecast to have near normal fire potential. With the resumption of dry north to northeast offshore winds in September, all areas west of the Cascade-Sierra crest are forecast have above normal significant fire potential from September through November, or until consistent wetting rains arrive. The exception is the North Coast PSA, where these wind patterns do not surface in many areas. Areas east of the crest fall back to normal significant fire potential beginning in September as longer cooler nights lead to shorter burn periods in this high desert region.

Sea surface temperatures (SSTs) surrounding the Hawai'ian Islands range from slightly warmer than normal in the northwest to slightly cooler than normal near the Big Island. Temperatures throughout the region are expected to reflect these SST trends through November. Dry weather since April has led to increasing drought throughout the region, especially on the lee sides, divides, and saddles of the islands. The four-month outlook from August through November forecasts below average precipitation. Fuel loading increased during the heavy rainfall observed in March. These fuels have dried out and become vulnerable to fire spread, especially on lee sides, divides, and saddles, and will occasionally become locally critically dry on windward sides during periods of dry weather. Significant fire potential is forecast to be above normal throughout the islands on the lee sides, divides, and saddles from August through October. Significant fire potential is forecast as normal on windward sides, although some local spots may see periods of above normal conditions during dry spells. In November, as the rainy season begins, significant fire potential should return normal in all areas.

Southern California: The large fire potential will be above normal across most of the region in August and September. However, the San Joaquin Valley and the deserts will continue to have near normal large fire potential. The large fire potential will remain above normal across Southern Ops from the mountains westward in October and November with normal large fire potential for the rest of the region.

High pressure over the Four Corners into the Great Basin dominated the weather pattern for central and southern California in July with periods of record heat across the interior regions of California. Weak troughing with a persistent marine layer along the West Coast brought brief periods of cooling near the coasts. Overall, temperatures were well above normal for July.

Surface winds were primarily south to west across the region the entire month with breezy episodes through the desert passes. The east to southeast flow around the ridge helped import monsoon moisture into the region, with isolated to scattered thunderstorms forming across the mountains and deserts most days. Southern and eastern portions of South Ops observed above normal rainfall for July, leaving the remaining areas to record below normal rainfall totals for the month.

Extreme to exceptional drought persisted across most of the region in July with moderate to severe drought across southern California south and east of Los Angeles County. Precipitation from showers and thunderstorms led to increases in the 1000-hour and 100-hour dead fuel moisture values across most mountain and desert areas in July. However, the valley and foothill locations reached record breaking lows with values that persisted below the 3rd percentile. Live fuel moisture continued to slowly decrease in July and most of the region is currently between 50% and 80%.

The sea surface temperatures (SSTs) across the Pacific Ocean have changed little over the past month. SSTs are near to a little above normal across the Gulf of Alaska and the Equatorial Pacific and a little below normal along the West Coast. Climate models are showing a trend toward La Niña conditions in the fall, and the Climate Prediction Center has issued a La Niña watch for the fall. This will favor the upper high being located near the Four Corners area and Southwest into September.

Temperatures will continue to be above normal for August and September across the inland areas, and near normal along the West Coast due to contributions from the persistent marine layer. An upper high will likely reside off the California coast from late September through November bringing above normal temperatures to the entire region.

Monsoon moisture will continue to be imported into the region from time to time in August and September, which will help generate periods of isolated to scattered showers and thunderstorms. However, precipitation events will trend down in October and November. Below normal rainfall is anticipated for these months as the pattern changes and troughs of low pressure are expected to move across the Pacific Northwest.

Pacific troughs that drop southward into the Great Basin from the Pacific Northwest will have the potential to bring strong offshore winds to southern California. Southern California is expected to receive a near normal amount of strong offshore wind events, or Santa Ana winds, in October and November. Significant fire potential will remain above normal across southern California from the mountains westward in October and November as warm and dry conditions combine with stronger offshore winds. Significant fire potential will become near normal across central California in October and November since offshore winds rarely surface across this part of the area.

Northern Rockies: Significant wildland fire potential in the Northern Rockies in August and September is expected to be above normal for most areas but return to normal in eastern North Dakota. In October, significant fire potential is expected to remain above normal for PSAs 10, 11, and 13-16. All the Northern Rockies are expected to return to normal fire potential in November.

Hot and generally dry conditions continued for the bulk of the Northern Rockies during the past month due to persistent much stronger than average upper-level ridging that extended north from the Great Basin. Only small pockets of significant precipitation occurred in eastern Montana and North Dakota. Every major climate reporting station in the Northern Rockies just experienced their warmest or second warmest-ever 30 days in the 1948-2021 period of record. All precipitation during the past month has been convective in nature resulting from periodic monsoon moisture surges rotating around the strong Southwest and Great Basin upper-level ridging. Thus, the rainfall was very short in duration and its fuel moistening effects were limited. As a result, the only areas in the Northern Rockies not in severe or greater drought are in portions

of western and north-central Montana. More than half of northern Idaho remains in extreme or exceptional drought, as does much of central and eastern Montana. In North Dakota, all of central North Dakota is in extreme or exceptional drought, with the remainder of the state in severe drought.

100-hour and 1000-hour dead fuel moistures are at or near historic lows in most areas, especially in northern Idaho Panhandle and northwest Montana. Fine fuels have been cured for several weeks in the lower elevations west of the Divide, in the plains of central and eastern Montana, and western North Dakota. Live fuel moistures are generally below-average most areas and continue to drop, with drought stress effects appearing in many shrubs and conifers in the western PSAs. Therefore, the live fuels are no longer considered barriers to fire spread in these areas.

The Northern Rockies Geographic Area saw a significant increase in fire activity due to numerous lightning fires. Numerous large fires and fire complexes are ongoing staffed with incident management teams. A significant increase of monsoon moisture may bring wetting rain to central Idaho and southwest Montana at the beginning of August, but a return to a warm and dry pattern is expected to resume after the first few days of the month.

The projected increase in strength and aerial coverage of drought across the Northern Rockies combined with the curing of the few remaining live fuel heat sinks west of the Continental Divide will result in above normal fire potential across the entire geographic area for the remainder of summer into autumn. This projection includes the western half of North Dakota where fire danger indices are once again very high despite a brief interlude of higher humidity and some precipitation during a mid-July monsoonal moisture surge.

A continuation of hotter and drier than normal weather is forecast over the Northern Rockies in both the short and long-term versions of the Climate Prediction Center (CPC) temperature and precipitation outlooks. The continued hot and dry pattern will result from continued upper-level ridging, occasionally weakened by upper-level waves moving north from the Great Basin, or east from the Northwest. These waves will likely interact with monsoon moisture to produce high-based lightning with limited precipitation, as in previous events that brought significant fire ignitions in July. Occasional Canadian cold frontal passages are expected to become more frequent as they move northwest to southeast across the geographic area in late August through October, bringing increased and shifting winds between weak ridging events.

On the plains of eastern Montana and western North Dakota, the curing out and availability of fuels is earlier than the climatological autumn period of the bi-modal fire seasons on the Plains. The earlier drying is due to the ongoing drought impacts and the outlook for warmer and drier than average conditions late this summer into autumn.

For the months of October and November, there is more consistency with ENSO forecasts about a potential second weak La Niña period later this autumn. With a weaker signal toward warmer and drier conditions than was previously depicted by CPC, the expectation is for fire potential to return to normal west of the Divide in October but remain higher than normal east of the Divide. A return to normal significant fire potential is forecast in November across all the Northern Rockies, which is typically out of season.

Great Basin: Above normal fire potential is expected for the Sierra Front as well as northwest Nevada and far western Idaho in August. Below normal fire potential is expected for the far south. Above normal is expected to expand across northern areas in September. Otherwise, normal conditions are expected.

The end of July into early August will feature a sharp and abrupt weather change. The above normal monsoon will continue to surge northwards through much of the Great Basin and into central Idaho and western Wyoming. This could be the biggest monsoonal surge seen in central Idaho to western Wyoming in several years. Widespread, long duration rainfall amounts of one to three inches are possible over a multi-day period ending in early August. Afterward, despite strong high pressure building in with above normal warmth, the airmass is initially expected to retain much of its residual monsoonal moisture. Daytime humidity levels will struggle dropping below 20% for any prolonged period into mid-August. Far southern

areas will also see additional moderate to locally heavy rains, where many areas have already seen significant monsoonal rainfall over the past month. A change to drier weather is expected by the latter half of the month. In far northwestern areas, conditions could quickly return to critically dry levels. Longer range guidance shows warmer and drier than normal conditions continuing into September. Afterwards, a general warming and drying trend should continue into the early fall.

Drier than normal fuel moisture in Idaho, northern Nevada, and northern Utah should quickly increase towards the 50th percentile by early to mid-August. The exception may be far western portions of central Idaho and northwest Nevada, which could continue to see critically dry fuels for most of August. Conversely, there is a minimal chance of any post monsoonal drying in far southern areas. By September, all areas should see an expanding area of critically dry fuels and increasing fire activity that could last into October in some areas.

Southwest: Below normal significant fire potential is anticipated across much of Arizona and far western New Mexico during August. Normal significant fire potential is expected across the remainder of the region during August, and for the entire Southwest Area during September through November.

The summer monsoonal pattern is ongoing, with low-level moisture remaining in place beneath upper-level high pressure extending from the Great Basin to the central and southern Great Plains. The resulting deep easterly to southeasterly flow has maintained high moisture levels and brought much above normal rainfall to the area during July that effectively ended the large fire season.

More typical monsoon season impacts and near normal rainfall are expected during August, with thunderstorm activity focusing over the mountains and shifting day-to-day in response to variations in the upper-level high position. Given the amount of rainfall already received this summer, it will be very difficult for burning conditions to return to normal in August west of the Continental Divide.

Climate outlooks portray that warmer and drier than normal conditions may return during September and October. Forecast guidance overall suggests that the highest likelihood of abnormally warm and dry conditions will be focused over northern Arizona and northwest New Mexico. This trend will need to be monitored closely as robust, widespread fine fuels growth is expected areawide through the summer. If these fine fuels cure by mid-September, the potential exists for a several-week fall fire season focused across lower and middle elevation locations. The seasonal change to cooler conditions in November is expected to result in normal fire potential overall.

Rocky Mountain: Above normal significant fire potential is predicted in August and September across the northwest corner of Colorado through much of Wyoming, South Dakota, and northwest Nebraska. Expectations later in the outlook are for above normal significant fire potential through the first half of October, then gradually becoming closer to normal by the second half of October through November.

Above normal temperatures expanded in June and July over most the Rocky Mountain Area (RMA), except normal to below normal temperatures were observed in south-southeast portions. June was driest across northern portions of the RMA, with the wettest conditions across central to eastern Colorado. After an early onset and persistent monsoon pattern developed over the RMA, precipitation in late June through July was most abundant across central to southern Colorado, portions of central to southeast Wyoming, and central to southern South Dakota. The last 60 days were drier than normal from the northwest corner of Colorado through southwest Wyoming, northern Wyoming, and portions of the Plains, especially northern portions in the RMA. The US Drought Monitor portrays extreme to exceptional drought in western Colorado, with severe to extreme drought expanding in southwest and northern Wyoming, and central and northern South Dakota.

Above normal significant fire activity occurred in June across northwest Colorado, northeast Wyoming, and to lesser extent in southwest Colorado. Late June and July precipitation and moderating fire weather conditions resulted in a decrease in new significant fire activity as well as reduced growth on existing large fires.

Some beneficial rain in an early onset and persistent monsoon pattern occurred over much of the RMA during the second half of June through July. However, moisture surges were more sporadic over northern portions of the geographic area resulting in occasional upward spikes in energy release component values, especially late in July. Additionally, extreme to exceptional drought remains in place over western Colorado with severe to extreme drought expanding in southwest and northern Wyoming and central and northern South Dakota.

Late June and July precipitation and moderating fire weather conditions have resulted in a corresponding increase in fuel moisture across a large portion of the geographic area. However, an increase in energy release component occurred late in July over Wyoming and western South Dakota with many locations reporting values greater than the 97th percentiles, and portions of central to northeast Wyoming above historical seasonal highs.

For late July into the first half of August, tropical monsoon moisture is forecast to propagate through the geographic area at times, although occasionally breezy west-northwest flow is predicted to scour the moisture out of northern portions of the area. The Climate Prediction Center (CPC) outlook for August indicates drier and warmer than normal conditions over northern portions of the RMA. More extensive warming and drying is projected for the autumn period, especially west of the Continental Divide. Model guidance into the first half of August indicates monsoon moisture will propagate through the geographic area at times, although occasionally breezy west-northwest flow is predicted to scour the moisture out of northern portions of the area.

Eastern Area: Soil moisture and precipitation anomalies for the last 30 and 90-day periods were below normal across parts of the Upper Mississippi Valley and northern Maine at the end of July. Longer range drought conditions were indicated across portions of the western Great Lakes and northern New England with severe to extreme drought across most of Minnesota.

Cooler than normal temperatures are forecast to spread northward from the Mid-Mississippi Valley into parts of the Great Lakes August into September. Warmer than normal conditions are expected across most of the Eastern Area September into October. Warmer than normal temperatures are then forecast across the northwestern and southeastern tiers of the Eastern Area in November.

Drier than normal conditions are forecast over parts of the northwestern Mississippi Valley into August. Drier than normal conditions are expected to spread northward from the eastern Mid-Atlantic States for October expanding into New England for November. Wetter than normal conditions are expected across much of the western tier Eastern Area September into October.

Fuel moisture levels are likely to remain below normal across portions of the northwestern Great Lakes into August if precipitation coverage and frequency do not increase. The summer fire season will likely persist across drier portions of the northwestern Great Lakes if precipitation frequency and coverage do not increase.

Near normal fire potential is forecast across the majority of the Eastern Area August into November. However, if precipitation coverage and frequency do not increase over drier portions of the northwestern Great Lakes, periods of above normal fire potential will persist across this area through the late summer season. Warmer and drier than normal conditions are possible over the eastern states October into November may create increasing fire potential.

Southern Area: Below average-to-average fire potential is expected across the Southern Area through September as a humid pattern continues to produce average to above average rain totals. Through the next two months, the area of highest rain potential is expected to move west out of the Southeast and towards the central Mississippi Valley area. This change should cause ridging and subsequent average to drier than average conditions for our Atlantic states through the fall. Due to the ridging, this area of the South is where drying fuels during fall could produce conditions for average to above average fire potential in October and November. However, this could change pending rain from any tropical storms or hurricanes.

Significant episodes of critical fire danger for Puerto Rico is unlikely with an average to below average fire threat there.

Relatively frequent frontal incursions into the Southern Area along with humid conditions and daytime heating produced a pattern of almost daily widespread shower and thunderstorm activity. With the above average rainfall, live and dead fuel moistures remain at well above seasonal averages and are preventing drought conditions from developing. The one exception is the presence of moderate drought in western Virginia and North Carolina. The latest drought outlook keeps the Southern Area out of drought through October. Over the past month, most of the precipitation anomalies across the South are at or above 150% of average. One significant note is the extremely wetter than average conditions across larger areas of Oklahoma and Texas where 30-day anomalies are 300% to over 400% of average.

Similar to previous trends this year, July's fire activity and acres burned remain well below average, indicative of the continuing high relative humidity and well above average rain pattern so far this summer. 100-hour and 1000-hour fuel moistures remain very moist with 100-hour fuels near or above 20%, while the 1000-hour fuel moisture values are over 20%, indicative of the wet seasonal rain pattern.

Neutral ENSO conditions in the tropical Pacific, a favorable position of the subtropical Atlantic high, which continues to funnel moisture into the South from the Atlantic and Gulf of Mexico, and favorable phases of the Madden-Julian Oscillation are producing an enduring wet pattern for the Southern Area, which should last into September. Late this summer the pattern is expected to begin to modify with ridging and drier conditions forecasted across the Atlantic states. This drier pattern, if it aligns with fall leaf drop, should produce drier fuels and an environment for elevated ignition and fire potential. Any significant rain impacting this area from the still unfolding Atlantic tropical season could alter the forecasted elevated fire potential for autumn. Neutral ENSO conditions will also produce wind shear conditions more favorable for Atlantic tropical storm development as the peak of the tropical storm season approaches.

Outlook Objectives

The National Significant Wildland Fire Potential Outlook is intended as a decision support tool for wildland fire managers, providing an assessment of current weather and fuels conditions and how these will evolve in the next four months. The objective is to assist fire managers in making proactive decisions that will improve protection of life, property, and natural resources, increase fire fighter safety and effectiveness, and reduce firefighting costs.

For questions about this outlook, please contact the National Interagency Fire Center at (208) 387-5050 or contact your local Geographic Area Predictive Services unit.

Note: Additional Geographic Area assessments may be available at the specific GACC websites. The GACC websites can also be accessed through the NICC webpage at: **http://www.nifc.gov/nicc/predictive/outlooks/outlooks.htm**